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09/867,901	05/30/2001	Nancy R. Kelly	D/98467D	8012

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CARTER, TIA A	
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Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	09/867,901	KELLY ET AL.	
	Examiner	Art Unit	
	Tia A Carter	2622	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *30 May 2001*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☐ Claim(s) _____ is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *11-31* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *30 May 2001* is/are: a)☒ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. §§ 119 and 120

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

13)☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application) since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.

a) ☐ The translation of the foreign language provisional application has been received.

14)☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121 since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____ .
4) ☒ Interview Summary (PTO-413) Paper No(s). *5* .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: .

DETAILED ACTION

Claim Objections

1. Claims 12-23, 25, 28-31 are objected to under 37 CFR 1.75(c), as being of improper dependent form for failing to further limit the subject matter of a previous claim. Applicant is required to cancel the claim(s), or amend the claim(s) to place the claim(s) in proper dependent form, or rewrite the claim(s) in independent form.

Claim Rejections - 35 USC § 102

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

2. Claims 11-31 are rejected under 35 U.S.C. 102(b) as being clearly anticipated by Kelly et al. (US. 5528387).

In regards to claim [11], Kelly et al. discloses a method for detecting corners of an input image document placed on a platen of a scanning device with said input image

document directed in such a manner that a leading edge of said document will be the first edge read by said scanning device, the actual physical corners of the input document denoted as Co, C1, C2, and C3 representing respective physical corners of the document, and as the input document travels through said scanning device, a full width array reads the background of said scanning device until the input document crosses an optical path between a light source and said full width array **(fig. 1, col. 9, lines 14-39)**, said method comprising the steps of:

a) generating edge data from a transition point of the input image document into the optical path **(fig. 1, col. 9, lines 35-39)**, further comprising the step of determining a page width value of the input document from values obtained from sensors which are set prior to the feeding of said input document into the scanning area **(fig. 4, col. 4, lines 63-64)**;

b) setting a video-image coordinate value VCo representing one corner of said input document, video-image coordinate VCo wherein the coordinate value of VCo is determined by analyzing image data being received by said scanning device **(fig 3, col. 3, lines 39-43)** and is defined as (SCo, PCo) such that SCo is a scan line location value PCo is a pixel location value **(figs. 1-2, col. 3, lines 44-46)**;

c) and once said video-image coordinate value VCo is determined, continuing to receive said image data such that a center coordinate value of said input document can be determined **(figs. 3-4, col. 4, lines 28-35)**;

d) after said center value has been determined, creating a first white fill area which is initially one scanline high and equal in width to the page width (fast scan direction length) of said input image document **(fig. 4, col. 4, lines 59-62)**;

e) determining whether a predetermined number of scanlines have been processed since the setting of said center value and, if a predetermined number of scanlines have not been processed, further analyzing said image data until the presence of said physical corner C1 of said input document is detected and, if a predetermined number of scanlines have been processed, setting image-value coordinate value VC1 to a default value **(fig. 4, col. 5, lines 6-12)**;

f) if said document is skewed, determining a skew angle of said input document and undetected corners C2 and C3 from the values of video-image coordinates VCo and VC1 and calculating values for video-image coordinates VC2 and VC3 in order to generate second and third white fill areas so as to bound the actual image area **(fig. 4, col. 5, lines 26-32)**;

g) generating an output image such that said output image is bounded by a first corner having the corner value associated with the pixel value of VCO and the scanline value of VC1, a second corner bounded by an area having the coordinate value of the pixel value of VC2 (PC2) and the scanline value of VC1 (SC1) and a third corner having the

pixel value of VC2 (PC2), a the scanline value of VC3 (SC3), and a fourth corner having a pixel value VCo (PCo) and a scanline value of VC3 value (SC3) **(fig.1, col. 10, lines 17-36)**; and

h) transferring said bounded output input to an output device **(fig. 5, col. 7, lines 6-12)**.

In regards to claim [12], Kelly et al. discloses as in claim 1, wherein said edge data represents as a transition between said image data representing a background of the platen cover or the background of a constant velocity transport device and a leading edge of said input document **(Figs. 1-2, col. 3, lines 48-51)**.

In regards to claim [13], Kelly et al. discloses as in claim 1, wherein said physical corner Co of said input document is determined by analyzing said edge data and, if the physical corner Co is not determined to be within a predetermined number of scanlines, then defaulting the value of video-image coordinate VCo to first default value a known value **(Fig. 3, col. 3, lines 54-67, col. 4, lines 1-2).**

In regards to claim [14], Kelly et al. discloses as in claim 3, further comprising the step of setting the video-image coordinate VCo (SCo, PCo) to a value equal to a measured coordinate value of the physical corner Co of said input document when said physical corner of said input document is detected **(Fig. 3, col. 3, lines 59-63)**.

In regards to claim [15], Kelly et al. discloses as in claim 1, further comprising the step of determining whether the value of video-image coordinate VCo is within a predetermined number of scanlines from the start of the scanning process such that the value SCo is less than or equal to a predetermined scanline value **(fig. 3, col. 3, lines 64-66)** and, if the value of VCo is not within a predetermined number of lines, then defaulting the value of VCo to a second default value **(Fig. 3, col. 4, lines 16-19)**.

* In regards to claim [16], Kelly et al. discloses as in claim 5, further comprising the steps of determining if the value of video-image coordinate VCo is within a predetermined number of pixels from a nominal center value such that the value of PCo is within a predetermined number of pixels of the nominal center value, said center value being a coordinate value wherein a fast scan coordinate is already known by the position of the nominal center pixel of the full width array and wherein a slow scan coordinate is known to be equal to the total number of scanlines processed **(Fig. 4, col. 4, lines 48-57)**.

In regards to claim [17], Kelly et al. discloses as in claim 6, further comprising the step of relating the nominal center value to the center of the area being scanned such that the value corresponding to the pixel of the full width array is centered in the fast scan direction for a particular paper width (i.e., if the full width array is 11 inches wide,

the nominal center value will correspond to the pixel located at 5.5 inches) **(Fig. 3, col. 4, lines 11-16)**.

In regards to claim [18], Kelly et al. discloses as in claim 6, if the value of VCo is not to be within a predetermined number of pixels of the nominal center pixel, determining whether VCo was detected before the nominal center pixel and, if VCo was not detected before the nominal center pixel, setting VCo to a third default value and, if the VCo was detected before the nominal center pixel, keeping the value of coordinate VCo the same **(Fig. 3, col. 4, lines 20-28)**.

In regards to claim [19], Kelly et al. discloses as in claim 1, wherein said step of determining said center point further comprises the step of monitoring the nominal center pixel of the full width array for the presence of edge data and, when edge data is determined to be present then the center of the input document has been detected and, if the center of the document has not been detected, determining whether a predetermined number of scan lines have already been processed **(Fig. 4, col. 4, lines 36-45)**.

In regards to claim [20], Kelly et al. discloses as in claim 9, wherein the step of detecting the center of the input document further comprises implementing a counter in order to track the number of scan lines that have been processed **(Fig. 4, col. 4, lines 46-48)**.

In regards to claim [21], Kelly et al. discloses as in claim 10, further comprising the steps of setting a center value if a predetermined number of scan lines have been processed and, if edge data is detected at the nominal center pixel, then setting the center value to the value corresponding to the position of the detected leading edge data **(Fig. 4, col. 4, lines 49-54)**.

In regards to claim [22], Kelly et al. discloses as in claim 1, further comprising the step of a determining, upon initiating the creation of the first white fill area, whether a physical corner coordinate C1 of said input document has been detected and, if, the physical corner C1 of the input document has not been detected, adding a scanline to the first white fill area **(Fig. 4, col. 4, lines 66-67; col. 5, lines 1-3)**.

In regards to claim [23], Kelly et al. discloses as in claim 1, determining whether a predetermined number of scanlines have been processed since the setting of said center value and, if a predetermined number of scanlines have not been processed, further analyzing said image data until the presence of said physical corner C1 of said input document is detected (fig. 4, col. 5, lines 4-9) and, if a predetermined number of scanlines have been processed, setting image-value coordinate value VC1 to a default value (fig. 4, col. 5, lines 10-12), if the presence of the physical corner C1 of the input document is detected, determining whether the detection of this corner is closer than a predetermined number of pixels from the nominal center pixel of the full width array (fig.

4, col. 5, lines 12-17)and, if the detected physical corner C1 of the input document is closer than the predetermined number of pixels from the nominal center pixel of the full width array (indicating that said document is either dog-eared or black edged) then defaulting the value of video-image coordinate VC1 **(Fig. 4, col. 5, lines 17-22)**.

In regards to claim [24], Kelly et al. discloses as in claim 12, if the detected physical corner of the input document is not closer than a predetermined number of pixels from the nominal center, setting the video-image coordinate value VC1 to the detected value **(Fig. 4, col. 5, lines 22-25)**.

* In regards to claim [25], Kelly et al. discloses as in claim 1, determining whether a predetermined number of scan lines have been processed since the setting of said center value and, if a predetermined number of scan lines have not been processed, further analyzing said image data until the presence of said physical corner C1 of said input document is detected and, if a predetermined number of scan lines have been processed, setting image-value coordinate value VC1 to a default value, if the input document is not skewed, generating a full scanline of edge data by said full width array and, if said input document is skewed, creating a partial scanline of edge data by said first corner of said input document transitioning into said optical path **(fig. 1, col. 9, lines 30-38)**.

In regards to claim [26], Kelly et al. discloses as in claim 14, further comprising the step of monitoring the center pixel of the full width array in order to determine when that pixel produces edge data and, when the center cell produces edge data, determining said center value of the input document **(fig. 1, col. 9, lines 40-44)**.

* In regards to claim [27], Kelly et al. discloses as in claim 14, further comprising the step of establishing, upon determining the center value of the input document, a boundary of the first white field area, said first white field area incrementally increasing in area, scan line by scan line, until the detection of video-image coordinate value for VC1, such that the width of the first white filled area is equal to the number of scan lines between the center value and the detected physical corner C1 **(Figs 1-2, col. 9, lines 44-50)**.

* In regards to claim [28], Kelly et al. discloses as in claim 1, if said document is skewed, determining a skew angle of said input document and undetected corners C2 and C3 from the values of video-image coordinates VCo and VC1 and calculating values for video-image coordinates VC2 and VC3 in order to generate second and third white fill areas so as to bound the actual image area, further comprising the step of rotating said output image such that the physical corner coordinates Co, C1, C2, and C3 are transformed to newly calculated output image corners to de-skew said output image **(Fig. 1, col. 9, lines 55-67)**.

In regards to claim [29], Kelly et al. discloses as in claim 1, generating an output image such that said output image is bounded by a first corner having the corner value associated with the pixel value of VCO and the scanline value of VC1, a second corner bounded by an area having the coordinate value of the pixel value of VC2 (PC2) and the scan line value of VC1 (SC1) and a third corner having the pixel value of VC2 (PC2), a the scanline value of VC3 (SC3), and a fourth corner having a pixel value VCo (PCo) and a scanline value of VC3 value (SC3) **(figs. 1-2, col. 10, lines 23-35)**, further comprising the step of increasing the output image area by reading an edge point along a first edge at the line where the center of the input document is detected **(figs. 1-2, col. 10, lines 46-48)**.

In regards to claim [30], Kelly et al. discloses as in claim 1, generating an output image such that said output image is bounded by a first corner having the corner value associated with the pixel value of VCO and the scanline value of VC1, a second corner bounded by an area having the coordinate value of the pixel value of VC2 (PC2) and the scan line value of VC1 (SC1) and a third corner having the pixel value of VC2 (PC2), a the scan line value of VC3 (SC3), and a fourth corner having a pixel value VCo (PCo) and a scan line value of VC3 value (SC3) **(fig. 1,col 10, lines 23-35)**, further comprises the step of applying a border of white-masking windows to the output image in order to prevent a black backup roll from appearing on the printed output as black borders thereby providing a user with a maximum amount of image area **(fig. 1-2, col. 10, lines 59-64)**.

In regards to claim [31], Kelly et al. discloses as in claim 1, generating an output image such that said output image is bounded by a first corner having the corner value associated with the pixel value of VCO and the scanline value of VC1, a second corner bounded by an area having the coordinate value of the pixel value of VC2 PC2) and the scanline value of VC1 (SC1) and a third corner having the pixel value of VC2 (PC2), a the scanline value of VC3 (SC3), and a fourth corner having a pixel value VCo (PCo) and a scan line value of VC3 value (SC3) **(fig. 1, col. 10, lines 23-36)**, further comprises the step of utilizing at least one white-masking window to prevent black wedges from being imaged on the fast scan start and end edge and the slow scan trailing edge of the output image wherein the locations of the corners CO and C1 are used outside of said white-masking window to frame said output Image **(figs.1- 2, col. 11, lines 15-24)**.

Conclusion

3. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Casparian et al. (US. 5257325), Kulkarni et al. (US. 6360026), Nakashima et al. (US. 4450579), and Katsurada et al. (US. 5359677) are cited to show related art with respect to electronic image registration and adjustment within a form of scanning device.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Tia A Carter whose telephone number is 703 - 306-5433. The examiner can normally be reached on M-F (7:00-3:30).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Kimberly Williams can be reached on 4863. The fax phone number for the organization where this application or proceeding is assigned is 703-746-6036.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-308-6056.

Tia A Carter
Examiner
Art Unit 2622

TAC

17 November 2003

KIMBERLY WILLIAMS
SUPERVISORY PATENT EXAMINER